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ABSTRACT

This learning module, which is intended for use in in-service training for vocational rehabilitation counselors, provides information and practice for developing token economies. The following topics are discussed: tokens and the rationale for using them; advantages of token economies; procedures for using a token system (specifying behaviors that need a reinforcement system, developing a menu of reinforcers, setting prices and wages, selecting tokens, using tokens, recording and evaluating, and fading out to other more normal reinforcement systems); and troubleshooting. A feedback sheet, bibliography, and three self-tests are also included. (MN)

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REHABILITATION ASSOCIATE
TRAINING FOR EMPLOYED STAFF

Token Systems
(RA-10)

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TOKEN SYSTEMS

by

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R.A.T.E.S.

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for Employed Staff

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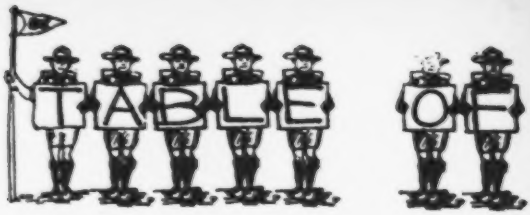
REHABILITATION ASSOCIATE TRAINING
FOR EMPLOYED STAFF

MODULE: RA-10 Token Systems

DESCRIPTORS: *Token economies, reinforcement, behavior management.*

OVERVIEW: This module provides information and practice for developing token economies. It emphasizes the need to use less intrusive methods when possible. It covers the steps in developing a token system, how to implement it and how to shift to more normal reinforcers.



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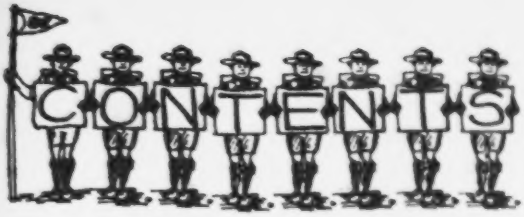

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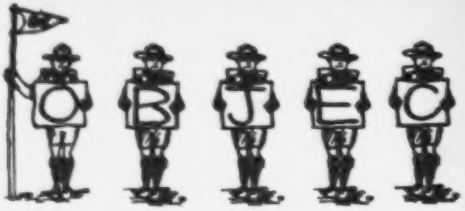


BEHAVIOR

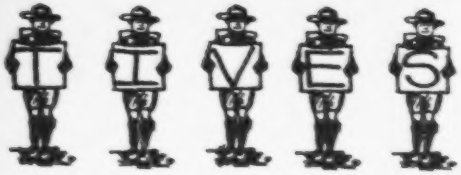
1. List 3 reasons why a token economy may be useful.

2. List the conditions under which one should consider using a token economy.

3. Describe two possible problems in a token economy and one way to avoid each.

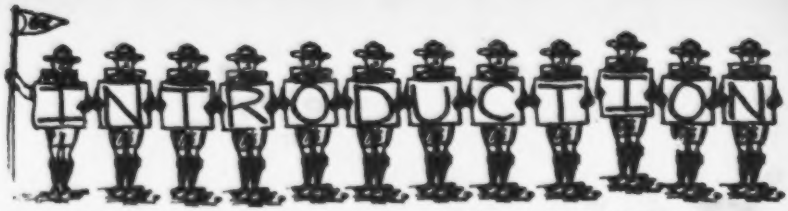
4. Describe how to make praise a reinforcer.

5. Design a token economy for an individual or group with which you work.



EVALUATION

1. Class test
2. Class test
3. Class test
4. Class test
5. Class exercise. You must:
   - a. Clearly specify the behaviors that earn or lose tokens.
   - b. Use a token that is convenient to give and difficult to trade or steal.
   - c. Balance wages and prices.
   - d. Provide an adequate menu of back-up reinforcers and
   - e. Provide for maintenance of behavior during phase-out of the system.



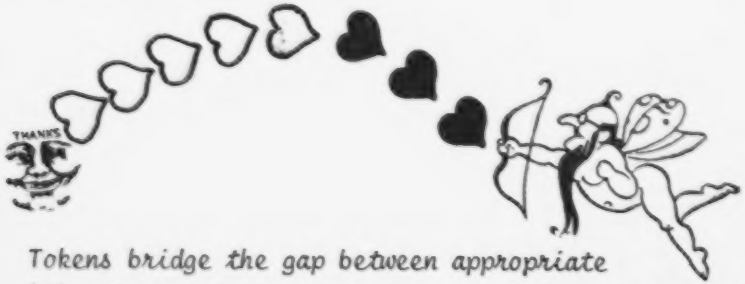
Behavior management procedures, used in rehabilitation settings to deal with client behavior deficits and excesses are based primarily on principles of *reinforcement*. Reinforcement, as discussed in greater detail in the other Behavior Management modules, is most effective when it is

1 *Delivered immediately*

2 *Individualized*

Unfortunately, workshop settings are such that it is not always feasible to individualize reinforcers and/or deliver them immediately. Some interrupt workshop activity (frequent snacks, activities); some are only available periodically (paycheck, certain activities, etc.).

It is because of this that *token* reinforcement is often useful. Tokens help *bridge the gap* between appropriate behavior and availability of effective reinforcers. In doing this, tokens serve as an alternative to the use of praise which can also be delivered immediately but is not always reinforcing.



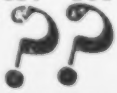
Tokens bridge the gap between appropriate behavior and availability of effective reinforcers!

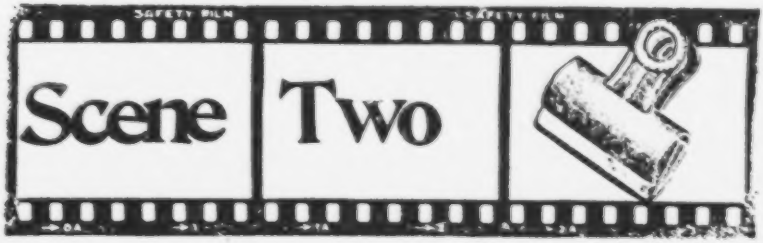
Consider the following situations:

Jack is a 23 year old man with Down's Syndrome. Although he is able to perform his job (assembling cams for small motors) accurately; he spends very little time working. He frequently disrupts other workers, taking their supplies pinching women and pretending to be a movie "tough guy."

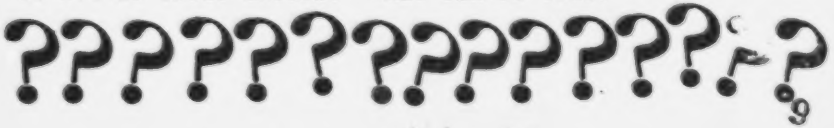
Whenever you try to praise Jack for working, he swears at you and stops. When you praise him, he averages 1.2 cams per hour. If you leave him alone, he averages 2.6 cams per hour. Industry standard is 11 cams per hour.

Praise, obviously, is not the answer. For Jack, praise is not reinforcing. What can you do?





The residents of the Happy Haven Home for the Handicapped are, to put it bluntly, slobs. They rarely make their beds, clean the bathrooms and living areas or police the grounds. They wash the dishes and their own bodies only with much prompting (yes, call it nagging) from staff. Staff have tried praising clients for doing work. They have resorted to criticizing clients constantly when they do not do their chores. What can be done?



Another tool you can use to change behavior when praise doesn't work is the *token economy*. A token economy, or *token reinforcement system*, is one way to bring powerful reinforcers to work with a client.

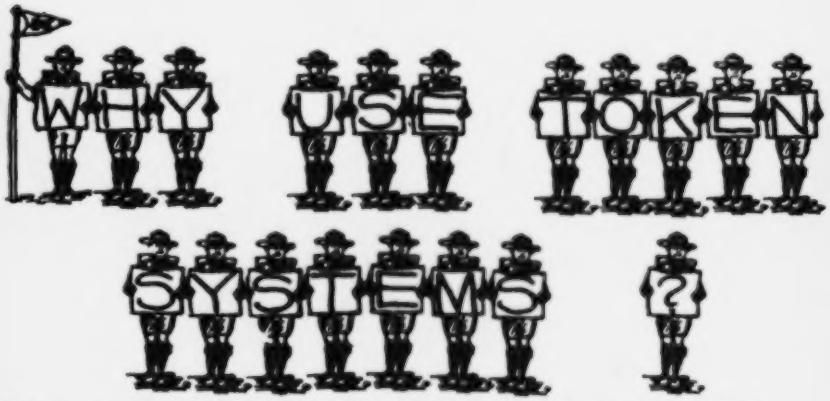
A token is a tangible item which can be exchanged for reinforcers. Some items which have served as tokens include poker chips, slugs, points or punches on a card, trading stamps and the granddaddy of them all, money!

The money system is a token system. You earn money for certain behaviors (such as coming to work). You spend money for reinforcers (such as heat, food and entertainment). The money isn't important in itself. What is important is the things that you can buy with it. And, as one comic said, *"The only thing money can't buy is poverty."*

As with any token economy, you have to learn the relationship between money and reinforcers. For many of your clients who have not learned this relationship, money is not a token reinforcer. The value of money depends on the prices and availability of the reinforcers it buys, compared to the work it takes to earn. When prices and wages are out of balance, the economy has problems.

A client must learn the benefits of money before it can be a reinforcer!

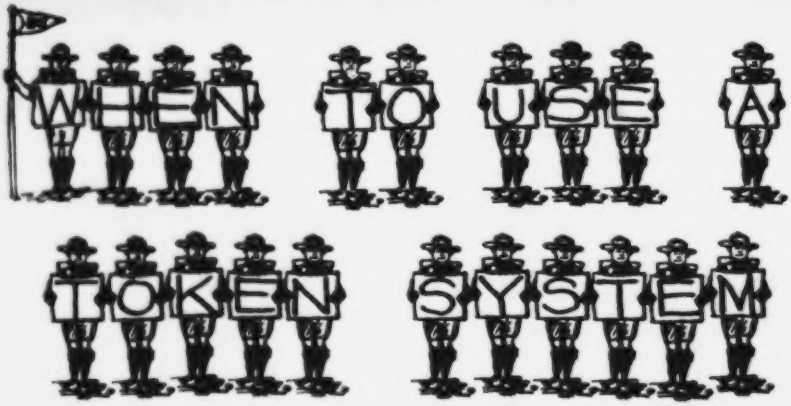
The money economy is very complex. A whole field of study, economics, concerns itself mainly with money. The token systems you use will be much simpler. But even the simplest token systems can be thrown out-of-whack by problems of inflation, shortage of reinforcers, satiation and even strikes (*"I ain't gonna work for 5 points an hour."*)



Token systems are like the rhyme about the little girl with the curl:

> *"Right in the middle of her forehead. When she was good, she was very, very good. But when she was bad, she was horrid!"*

Why use token systems then? Because, when you are working with difficult-to-motivate clients, when they (token systems) are good, they are very, very good!



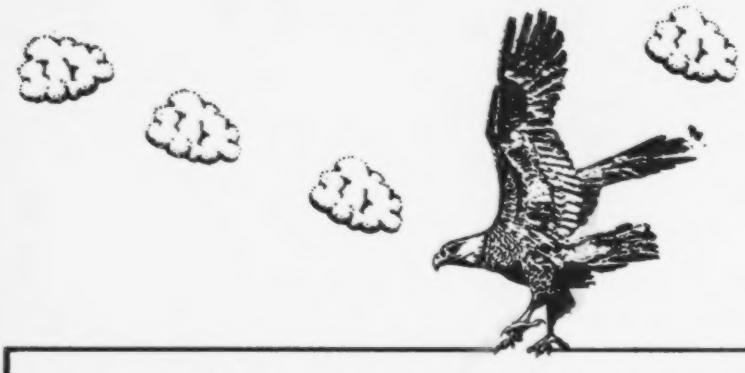
The general rule is: *Use tokens only when simpler, less intrusive reinforcers (such as praise) don't work.* Always try more normal social consequences or simple contracts first. Then, if praise, simple contracts and other unintrusive reinforcers do not work, plan a token system.

There are two reasons for trying praise (and criticism) before tokens:

1 The first is that special reinforcement systems are less normal, more expensive, more difficult to implement and unlike the way competitive employment situations operate! Therefore, token (and other special) reinforcement systems must eventually be faded out. So, if you can get the desired behaviors without using a token system at all, you won't have to fade anything.

2 Second, you should use powerful reinforcers only if there is plenty of room for improvement. If a behavior is already acceptable, a special reinforcement system is unnecessary. Moreover, if you remove the system abruptly, the behavior may end up worse than it started. Although it may sound obvious to use tokens only when needed, token systems are often used unnecessarily. This often occurs when there is a token economy for a whole group, regardless of the behaviors of each individual.

So far we have mostly told you when not to use a token system. When should you use a token system? While there is no single correct answer for this, the following guidelines may be helpful:

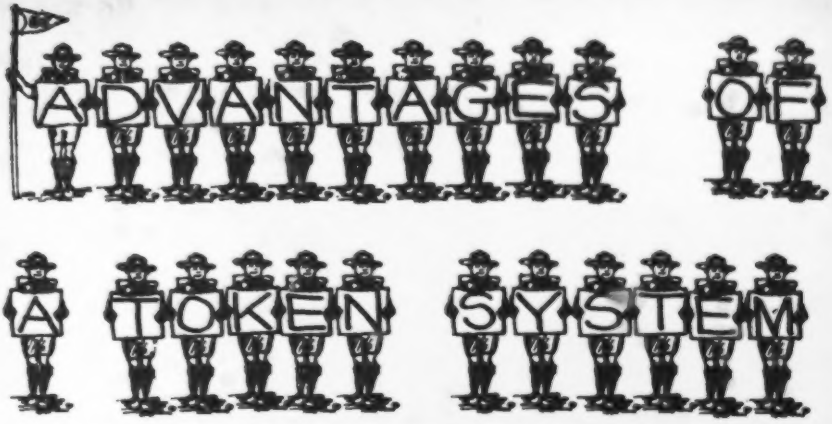


1 *Use a token system with an individual or group when a persistent problem occurs (especially to increase a behavior) if, and only if, less normal or natural reinforcers have been tried unsuccessfully.*

2 *Use money as a token reinforcer for behaviors for which money is the usual reinforcer in competitive employment (e.g., piece-rate tasks, special maintenance chores in a residence).*

3 *Use tokens when it is difficult to find a single reinforcer which works consistently.*

SEE SELF TEST #1



As alluded to in the introduction, there are several reasons why a well-planned token system may be useful:

1. *Tokens can be exchanged for a variety of back-up reinforcers.* If there's enough variety, there will always be something reinforcing available.

2. *Tokens can be given immediately.* Reinforcers are most effective when given immediately. However, they often must be delayed. The tokens bridge the delay. By being exchangeable for reinforcers, they become reinforcers for themselves.

3. *Token requirements can be adjusted for individual skill levels.* When someone is learning a new skill, reinforcement must be frequent. Once the skill is well-learned, special reinforcement should be given less often. For example, you might initially give one token following each correct step in a 20-step assembly task, then 20 tokens only when the task is complete, then count the number of assemblies completed each hour and give 20 tokens/assembly at the end of the hour.

4. *Tokens can be given without interrupting an activity.* Snacks and reinforcing activities would disrupt the task on which the client is working. Tokens may be given during the task and redeemed later for reinforcers.

5 *Token loss may be used as a mild punisher.* Once tokens begin to serve as reinforcers, token loss (fines, charges) may be used to decrease unacceptable behaviors. This is an example of response cost.

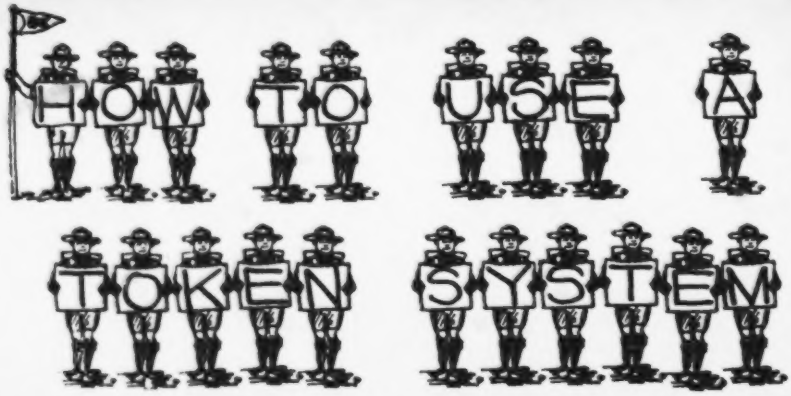
6 *By pairing praise with tokens, praise can be made into a reinforcer.* A neutral stimulus (one that has no effection behavior, in this case, praise) can be turned into a reinforcer by pairing the tokens and praise. For this reason, you always praise as you give tokens.

For example, snacks are generally available only at specified times, such as breaks.

However, you must assure that the tokens do not cause distractions. A client who is given chips as tokens may play with them. To avoid this, the chips might be placed in a clear plastic box, or pockets on a card could be used.

Tokens are exchanged for "valuables!"
Tokens are delivered immediately!
Token requirements can be individualized!
Token delivery is non-interrupting!
Token loss can be punishing!
Praise, when paired with tokens, is a reinforcer!

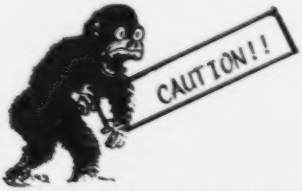
SEE SELF-TEST #2



There are several steps in planning and implementing a token economy. They are basically the same whether it is a group or an individual token system. As a preface, keep in mind the following cautions about group token systems:

1 *Even though the system is set up for a group, it must be individualized.* Only those clients and those behaviors which require tokens should be on the system, for the reasons listed in the section, When to Use a Token System.

2 *Accreditation standards and court cases imply that general token systems are not considered "individual treatment."* They must be modified for individual needs.



Group token systems must be individualized for clients and behaviors!

Given those cautions, the steps are the same for group or individual token systems.

Specify the clients' behaviors that need a special reiforcement system.

a Check progress on individual goals

b Determine whether a simple reinforcement system has been attempted.

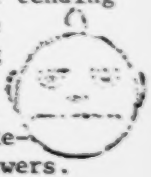
c Define the behaviors which will earn tokens.

d Specify qualities as well as quantity of performance.

In the case of Jack (from Scene One) you would first check his IPP to look for goals. You would then see which behaviors are already improving. Finally, you would pick out those behaviors from the IPP which are not improving and define them for use in the point system.

If the short-range objectives on the IPP are clearly defined, you may be able to use them as is. If they are somewhat vague, you should clarify them.

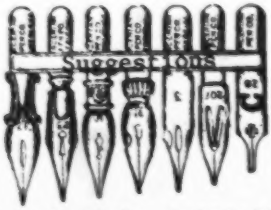
In Jack's case, let's assume that he is still not tending to his work and that he spends more and more time disrupting others. Because praise is not working as a reinforcer, an individual token economy may be considered. Let's take this one step-by-step. Try filling in each section before reading on. Remember, there could be many different correct answers.



1 Behaviors that will earn or lose:

EARN:

LOSE:



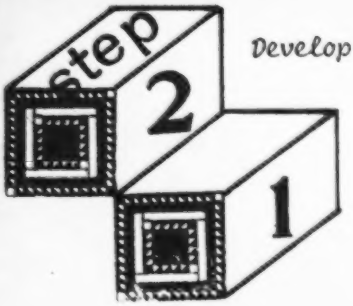
EARN Complete cams: Jack might initially earn tokens for each correctly assembled cam.

Working-on-task: Jack might earn tokens at first for working for a complete 10 minutes. "Working could be defined as "handling or reaching for necessary materials or tools, listening to supervisor, or raising hand to signal supervisor." He must do these without leaving his station."

LOSE Pinching: Jack might lose tokens for touching another client with his hands!

Taking supplies:

Disrupting: doing any activity which causes a worker who is on-task to stop working for more than 5 seconds.



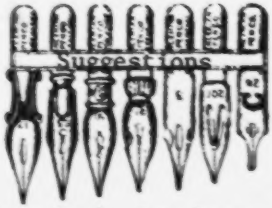
Develop a menu of reinforcers.

a Ask clients what they would like in terms of tangibles, privileges and special events.

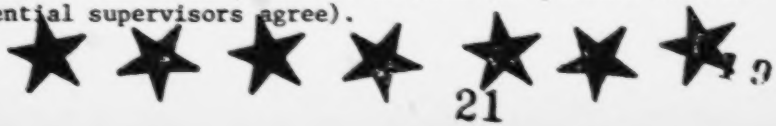
b Watch to see what clients do when given free choice of activities.

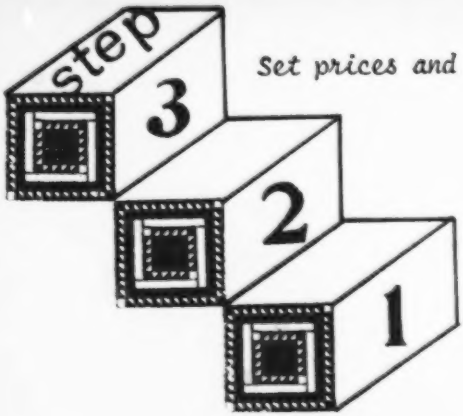
c List as many practical reinforcers as possible.

2 Prepare a list of reinforcers for Jack's token economy:



It would help to know Jack, but here are some possibilities. Money (especially for points earned for vocational tasks), snack items at break, extra break time, movie tickets, TV time during work or at home (if parents or residential supervisors agree).





Set prices and wages.

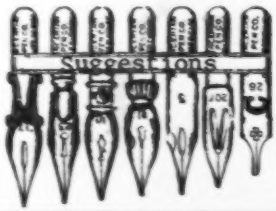
a Decide on an average hourly wage. For vocational work (eg., contract work), this will depend on the certified wage. Usually, pay for vocational work will have to be in the form of money. Any tokens given for these tasks will have to be in addition to wages.

For nonvocational tasks (such as academic work, attending to task, arriving on time and asking for help) the most important, most difficult or most time-consuming behaviors should earn the most points.

b Set prices for privileges, special events and materials. Balance these prices so that the amount of work needed to buy them is not too great or too little. A rule of thumb may be that the amount of work necessary to earn an item should be similar to the amount of work which would earn the money that item costs. For example, an hour of working on a task without disrupting others should earn a client tokens worth about the client's certified wage. The cost of privileges (eg., extra break time) should be adjusted so that the client will be likely to purchase privileges at least as often as he/she purchases material goods.

3 Set prices and wages for Jack's behaviors and reinforcers:

WAGES	PRICES	FINES
(List each behavior for which Jack can earn tokens. Give a wage for each.)	(List reinforcers from menu. Give a price for each.)	(List each behavior for which Jack loses points. Give a cost for each.)

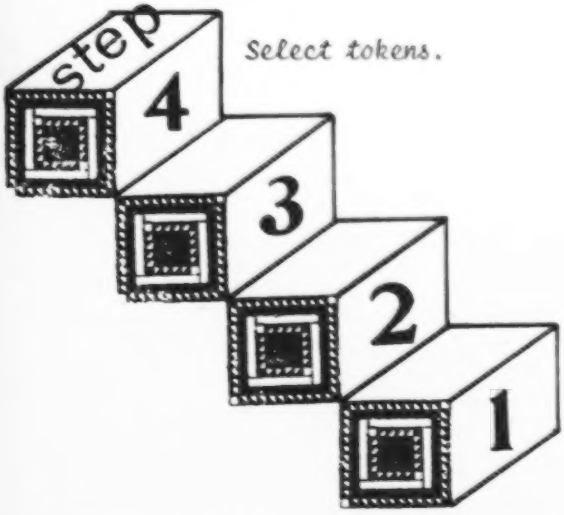


WAGES	PRICES	FINES
Assemble 1 cam correctly=30¢	Items=cash or 1 token/15¢	Pinch=5
Stay in work area 10 mins. without leaving = 1 token.	Breaktime=5 tokens/ 5 mins. use of TV or games.	Take=-10
Work at least 9 mins. during 10 min.=2 tokens.	Special events= negotiable.	Disrupt=-2

Here is how these figures were derived. The industry standard for producing cams is 11 per hour. Assuming an industry pay rate for this job of about $3.45/hour, that is roughly 30¢/cam. This would, of course, depend upon the actual pay rate in the local area.

In this case, wages for assembling cams may not be used for purchasing privileges. There may be legal barriers to use of work earnings to pay for breaks. On the other hand, tokens may be used as cash. In this case, simply staying on task, for 10 minutes, is worth as much as completing a cam (2 token = 30¢).

However, these tokens must also be used to pay the fines for unacceptable behaviors. The balance should permit Jack to take two 10-minute breaks each day. As Jack's behavior improves, both tokens and fines should be faded out.



Select tokens.

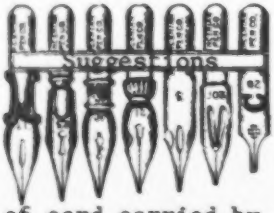
a Tokens should be easy to deliver. They should be available only by earning within the point system and should be hard to exchange or steal. Some good tokens are

points on a card
holes punched in a card
color-coded or marked chips or slugs
special coupons or tickets

b It should be possible to both give and take away tokens (although the emphasis should be on giving them).

C Clients should be able to see the tokens as they are earned. Often, facilities will keep piece work wage records or other token earning records in a staff office. When that is done, they will probably not work as reinforcers.

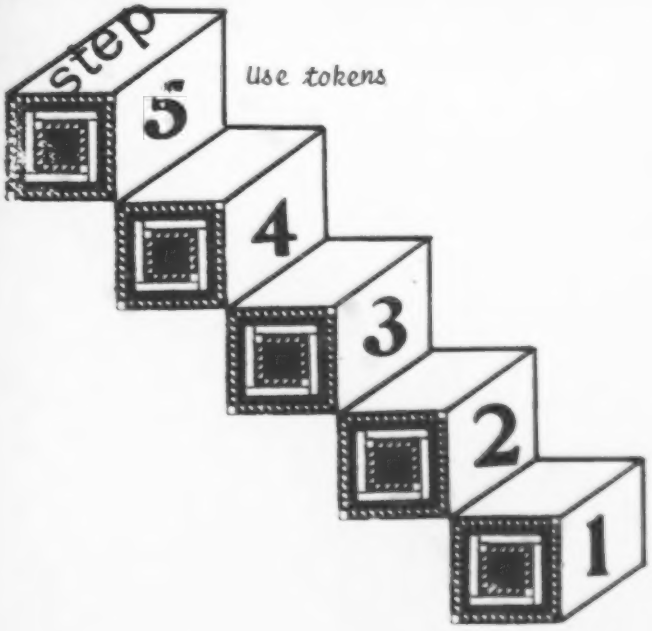
4 Select a token for Jack:



A bank book style of card carried by Jack might work. Daily totals could then be put in a ledger kept by staff. Each day, Jack would start over. Extra points would be saved for movie tickets, expensive items and special events. Saved points could not be used for snack bar, breaks or TV.

SAMPLE LEDGER SHEET

Date	Time	Earned for	#	Fines/purchases for	#	By	SubT
9/28	9:10	area	1				1
	9:20	area	1				2
	9:30	area & work	3				5
	9:40	work	2				7
	9:44			disrupt	2		5
	9:45			disrupt	2		3
	10:00	area	1				4
	10:10	area & work	3				7
	10:20	area & work	3				10
				break & drink	10		0



a Establish the value of tokens. If necessary, the first day you may give tokens free and allow immediate exchange. Start with frequent exchange periods and then make them more natural and infrequent. Require increasing amounts of work to earn tokens.

b State the wages and prices in advance and *stick to them!* When you adjust them, describe the change in advance. If possible negotiate with the client when changing wages or prices. Then *be consistent* in using the system.

c Do not permit clients to get "advances" against future earnings.

d Do not haggle. Give points according to the planned schedule. You may wish to establish a formal grievance procedure, but do not argue about wages.

e Never promise a misbehaving client that you will give him/her more points if she/he quiets down or gets to work. This will only reinforce disruptive behavior.

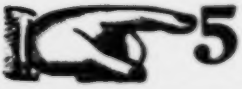
f Do not threaten. Give at most one warning, then fine. If you are going to give a warning, that should be stated in advance.

g Before giving points or tokens, assure that all work is done at the required criterion level.

h Assure that clients know how to do the behavior. Teach and teach again. The token system is an aid in teaching, not a substitute for teaching.

i Praise when giving tokens. Tell the client what she/he did to earn the token. Then give the token. This is done in order to develop praise as a reinforcer and to turn criticism into a mild punisher.

j Establish a time and place for token exchanges. Initially, tokens might be exchanged for reinforcers at each break, lunch and the end of the workday. Gradually, these should be extended so that exchanges occur once per week (except for those normally occurring at breaks, such as purchase of a soft drink).



5 Using tokens for Jack:

a Tell how you will establish tokens as reinforcers:

b Tell when and where token exchanges will take place:

c Tell what will happen if fines place Jack "in the hole:"

d Tell what to do if Jack has no points at break time:

a Start out with tokens being given free and exchanged at one break. Then watch while Jack makes 1 cam. When he finishes, give him 30¢ plus 1 token for staying plus 2 tokens for working. Allow him to exchange those immediately for 3 minutes of break time. Then shift to the planned system.

If the shift is too abrupt and Jack does not work, you may need to use shaping. A possible shaping sequence is as follows:

Start with level 1. Advance a step after 2 consecutive days with 5 cams/hour and no more than 5 fines/day.

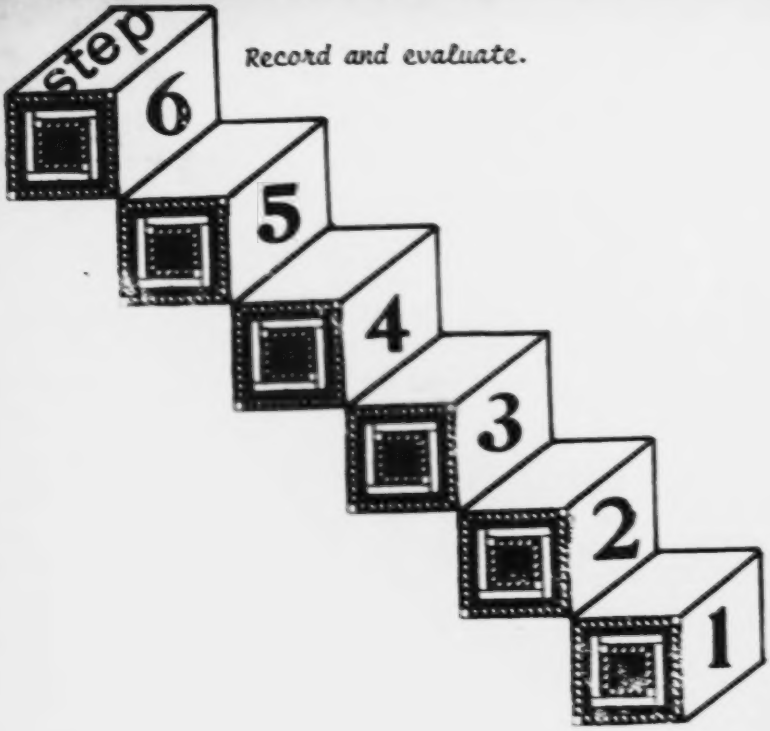
Level 1: Give 1 token about every 3 minutes if he is in his area the whole time.

Level 2: Require him to remain in his area and work 3 full minutes for 2 tokens.

Level 3: Require him to stay in his area and work 5 full minutes for 3 tokens.

Level 4: Require him to stay in his area and work 10 full minutes for 3 tokens.

Notice that we specified the steps clearly and we specified the criterion for moving on.



Record and evaluate.

a Keep careful records of token earnings and purchases.

b Monitor the most important behaviors to be changed.

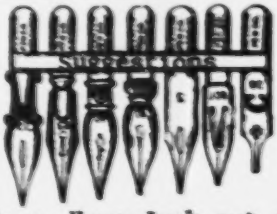
c As behaviors improve, increase the requirements until they reach pre-arranged criteria.

d If behaviors do not change, troubleshoot and modify the system.

6 Record and evaluate

a Describe what behavior(s) you will monitor and how you will record them.

b Describe how you would record token earnings and losses.



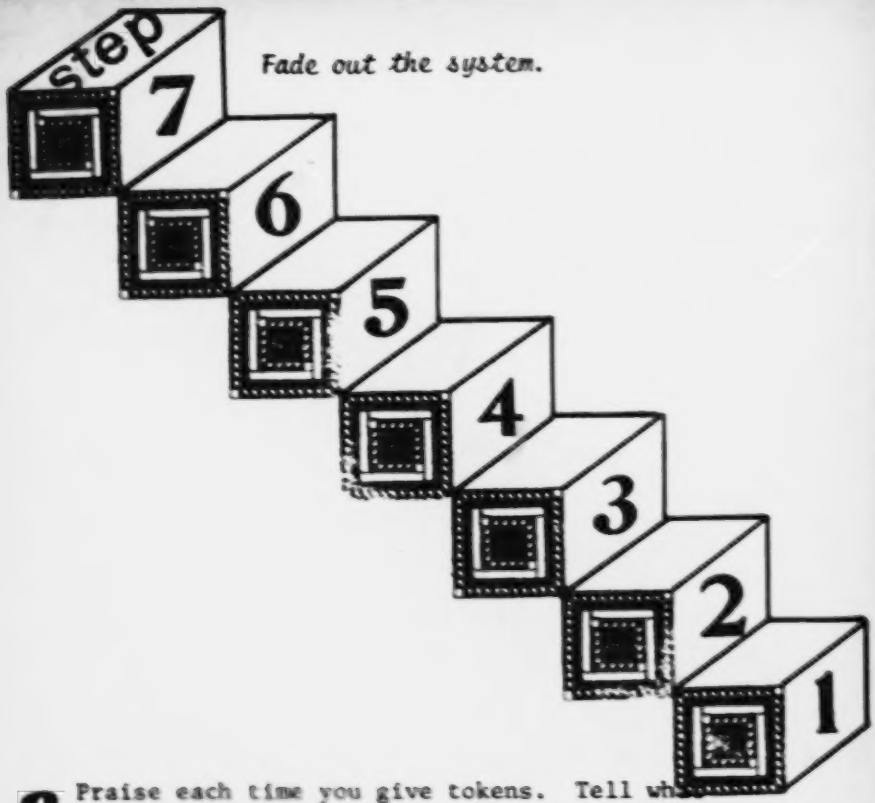
a Record cams made/day: Have Jack put completed cams in a bin. Count them at the end of the day and record.

Record disruptions (including pinches and takes): During two 10-minute periods each day, watch Jack carefully and count how many times he does these. NOTE: We did not count directly from the point card. Because staff are busy, they may not see all instances of the behaviors. Also, when you begin fading the system, not all instances may show on the card. If possible, it is best to record goal behaviors separately from the point system.

b Each day, add total number of points earned, total fines, total spent tokens and subtotal to date. Keep a record like the following:

POINTS EARNED	FINES	PURCHASES	SUBTOTAL

Take these directly from Jack's point card.



Fade out the system.

a Praise each time you give tokens. Tell what the client did wrong each time you take points.

b Increase the requirements for earning points (quality, quantity or both).

c Give larger numbers of tokens, but give them less often.

d Increase the delay between earning tokens and exchanging them for back-up reinforcers.

e Reinforce only intermittently. The behavior begins to pay off only once in a while.

f Teach the client to give his own tokens or monitor her own behavior. Spotcheck periodically.

NOTE: Of course you do not fade out a piece-work pay system for productive work. You may, however, fade to an hourly pay system.

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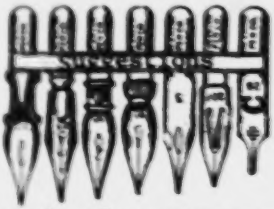
7 Fade out the system:

How would you fade out Jack's token system for working on-task and completing cams? How would you fade out the use of the fines?



1. Require longer periods of constant work for on-task points.

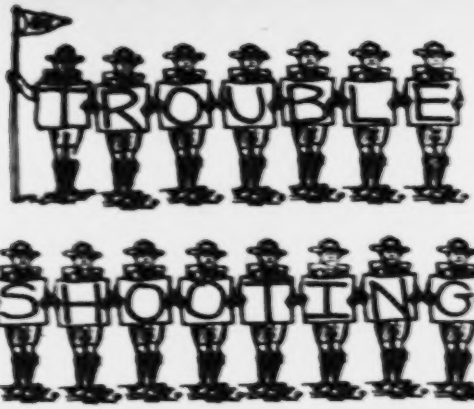
2. Give points for completed cams only after 5 are done, then 10, then at breaks, etc.

3. As you fade out on-task points, begin to rely more on brief criticisms following misbehaviors.

4. Give Jack a kitchen timer set for 10 minutes. Have him give himself points if he has stayed in his work area and worked throughout the interval. Spotcheck to assure he is reasonably accurate in giving tokens.

5. Remember, praise before giving points. Criticize before fining. Then continue to use these natural social consequences as you fade out the system.

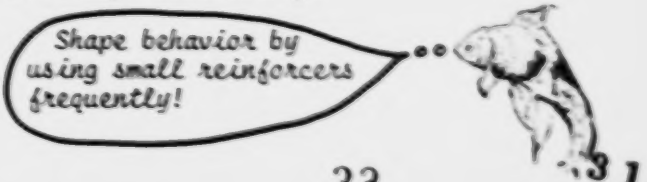
SEE SELF-TEST #3



Here are some common problems with token economies. The suggestions may help you out, but this is not a cookbook. Token systems can be complicated: get help if yours is in trouble. Following are common problems found in token systems and suggestions for avoiding these problems.

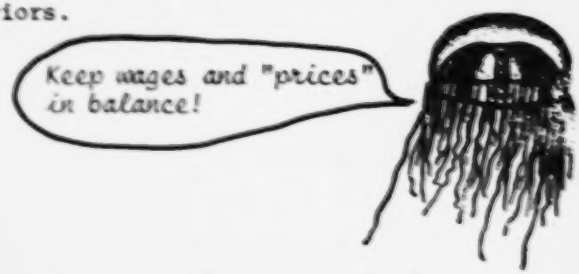
1 *No teaching:* Tokens are not a substitute for teaching. Use prompts, chaining and shaping to teach the behaviors that earn points. If you have a point fine system, allow the client to earn back some of the points by correctly practicing the appropriate behavior.

2 *Requirements to earn points are too high:* If necessary, shape. Remember it is better to give small reinforcers often than to give a large reinforcer only occasionally.



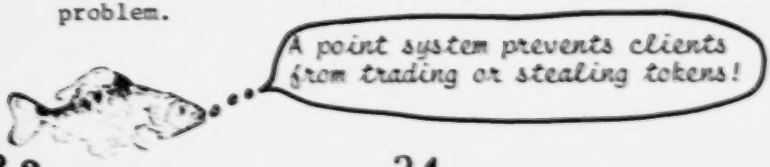
3 *Requirements to earn points are too low:* The client will not make progress. Gradually raise the criteria.

4 *Price-wage imbalance:* If prices are too high for wages, clients will "strike." If wages are too high, clients will earn what they want and then show erratic behaviors.

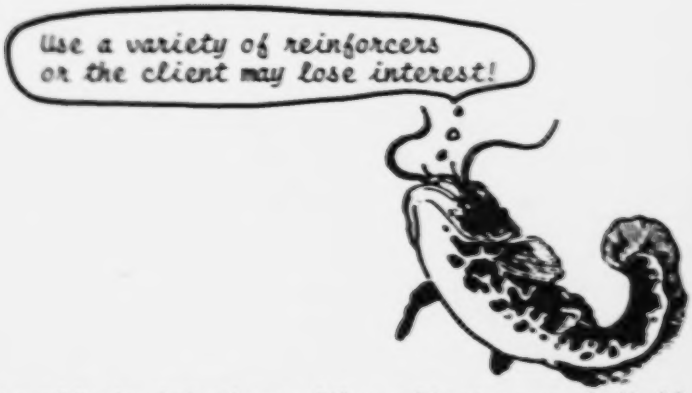


5 *Bootleg reinforcers:* If most or all the reinforcers are available outside the economy, the system will not work well.

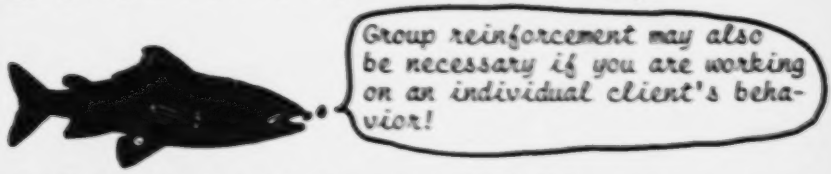
6 *Clients exchange or steal tokens:* This may produce effects similar to bootleg reinforcers. Only the goal behaviors should be reinforced with tokens. Using coded tokens or points on cards may prevent this problem.



7 *Inadequate menu of reinforcers:* Behavior will be erratic. When possible, have a menu including a variety of tangible items, daily activities and occasional special events. Be sure that items on the menu have been identified as reinforcers for the client.

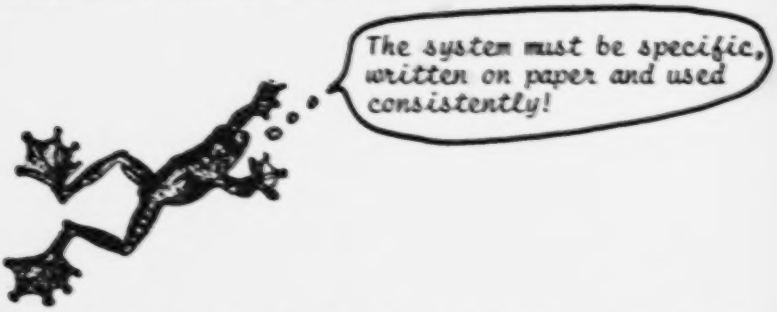


8 *Other clients interfere with a client on an individual token system:* Provide special reinforcers for the group based on the person's token earnings.

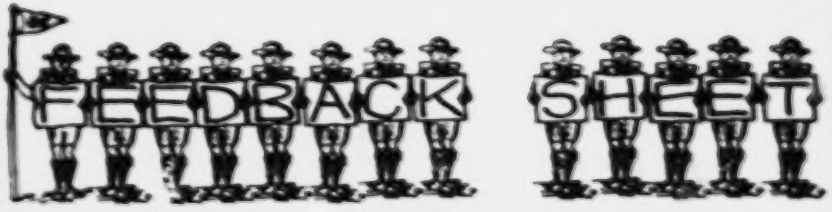


9 *Points are meaningless or not visible:* If the staff keep the points in a place not visible to the clients. The tokens are not immediate and the system may not work. If the tokens are meaningless to the client, do free exchanges as described in the section on using tokens. If points are too abstract, try tangible tokens like poker chips.

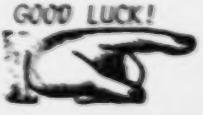
10. *The system is inconsistently applied:* Assure that behaviors that earn and lose points are well defined. Use tokens which are practical to give and take. Write the whole system down.



11. *When the token system is terminated, improvements in the client's behaviors suddenly fall apart.* This usually means the system stopped abruptly before praise was turned into a reinforcer. Fade the system *gradually*, praise each time you give points and describe the problem each time you fine. *Continue praising* after terminating the token system.



This is a checklist for grading your token economy. If you follow it, you shouldn't have any trouble.



Project: Design a token economy
Points to pass: 12

Criteria	Max. Pts.	Pts. Earned
1 The behaviors that earn tokens are clearly specified.	2	_____
2 At least 75% of the behaviors or potential points are productive behaviors rather than lack-of-disruption behaviors.	2	_____
3 The target behaviors are individualized.	1	_____
4 The quality of response and quantity are specified.	1	_____
5 A menu of reinforcers is provided which:		
a. provides adequate variety	1	_____
b. is balanced with wages	1	_____
c. provides for both short-term (daily or quicker) and long-term range consequences.	1	_____
6 The token:		
a. is easy to give	1	_____
b. is difficult to steal or trade	1	_____
c. allows for response cost	1	_____
7 How the behavior will be maintained is described.		
a. praise before tokens	1	_____
b. increasing behavioral criterion	1	_____
c. increasing delay	1	_____
d. self-presentation of tokens	1	_____
8 A monitoring and evaluation system is set up.		
a. tokens earned and spent	1	_____
b. behavior improvement	1	_____
TOTAL:		_____

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Walker, H.M. and Buckley, N.K., Token Reinforcement Techniques. Eugene, OR: E-B Press, 1974. This book includes the principles of developing and operating token economies. Although intended mainly for classroom token economies with children, it has many useful ideas. It also includes a review of research and sample forms.

Ayllon, T., and Azrin, N., The Token Economy. New York: Appleton-Century-Crofts, 1968. The classic which introduced token economies, this book describes an economy in an institution. It covers many of the practical and thoretical issues.

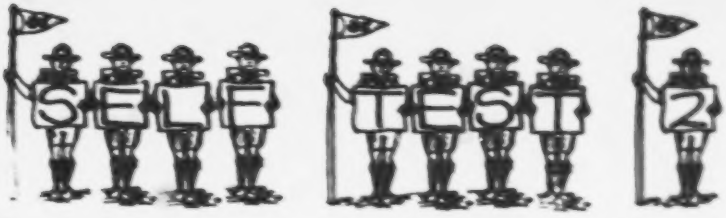
Kazdin, A., The token economy: A review and evaluation. 1977. An evaluation and review of token economies, their accomplishments and limitations.

Phillips & Phillips, E., Fixsen, D. and Wolf, M., The teaching-family handbook. Lawrence, KS: The university of Kansas Printing Service, 1974. Aimed at teaching-parents in group homes for adolescents, this book provides an example of a highly sophisticated, powerful token economy. It also provides an excellent discussion of an informal teaching strategy, provides detailed task analyses of several household chores and covers many other areas of group home operation.

Sanders, R.M., Behavior modification in a rehabilitation facility. Carbondale, IL: Southern Illinois University Press, 1975. This book covers a number of brief studies done in a work activity center and sheltered workshop. Token reinforcement is used in several of the studies.

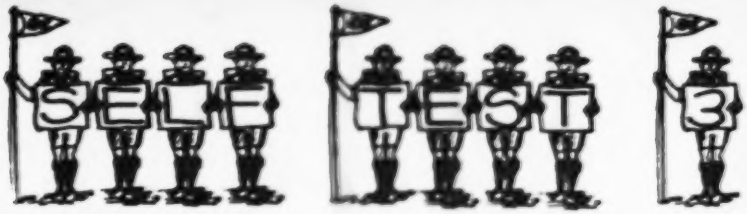
1 What is a token?

2 When should you consider using a token economy?



1 When should you consider using tokens?

2 List four advantages of token economics.



1 Assume that you have decided to implement a token system in your program. Provide an outline below of the sequence of steps you should take: